

Effectiveness of Memory Package to Improve Long Term Memory and Problems Related to Memory among Children of Age Group 6-8 Years in Selected School

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DOI: [10.36348/sjnhc.2021.v04i07.003](https://doi.org/10.36348/sjnhc.2021.v04i07.003)

| Received: 23.05.2021 | Accepted: 29.06.2021 | Published: 20.07.2021

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Abstract

Background: A memory mostly depends on the attention and emotional environment of a child. Memory also indicates effective retrieval of experiences of the past. The power of memorization varies from person to person. The aim of the study was to assess the long term memory and problem related to memory of school going children of age group of 6-8 years in selected school. **Materials and Methods:** Mixed method (Convergent parallel design) research design was used in the study. An evaluative and phenomenological approach was used in the study. Memory Package designed introduced for the school going children. The study sample consisted of 80 children and their parents in a selected school. Total 6 days intervention program was planned for the children, hence the delayed post -test was conducted before giving memory package and post -test done after 6 day. Result revealed that the Memory Package helped children to improve long-term memory. In pre-test 53 children had inadequate, 26 children had moderate and 1 child had adequate memory post-test showed memory package helped to improve long term memory . It 55 children had moderate long term and 30 children is had adequate long term memory. The pre -test, post -test difference highest in the area of "one minute attention span test" and lowest in the area of "sound test" and highest SD difference in the area of "problem solving puzzles "and lowest in "mental sums". Partially quantitative data was collected by parent's dialogue and it showed that memory package is helped to improve long term memory children. **Results:** Short term memory was converted to long term memory for the children by information processing. If parents are involving and concerned about this memory training will show better performance memory in children. **Conclusion:** Memory package is help to improve the long term memory of school going children.

Keywords: Memory package, school going children, long term memory, Short Term Memory, Mixed method study.

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I. INTRODUCTION

Children are considered as the special population in psychiatric nursing curriculum. The definition of children is attached with age that is from birth to 13 years, consider as child. Though it is divided in infant, toddler, teenage, adolescents etc. these specific group of individual considered as different form adult in case of boys or girls, their psychology is different form adult psychology and their brain is not matured like an adult brain . As emotion and stress of children are different than adult. As most of the time adult learning is manifested by memory. Learning takes place after birth of the child continue to progress till the end of a life.

All this memory functions even if your friend does not asked you to recall something you did last week. So memory of some short fundamental to our understanding of behaviour and mind [1].

The term memory comes from a Latin word 'memoric', meaning "to be mined full of "or "to serve as a reminder "the term memory refers to what is retained-the total body of remembered experience, as well as a specific experience, that is being recalled. So memory is either retaining experiences or identifying, recalling them successfully at the right moment [2].

Three distinct process of memory have been identified these are encoding storage and retrieval process. Encoding is mostly process of receiving sensory input and it transforming into a code which can

be stored and retrieval is the process of gaining access to stored coded information, when it is needed. But memory is seldom an accurate record of what was experienced [1].

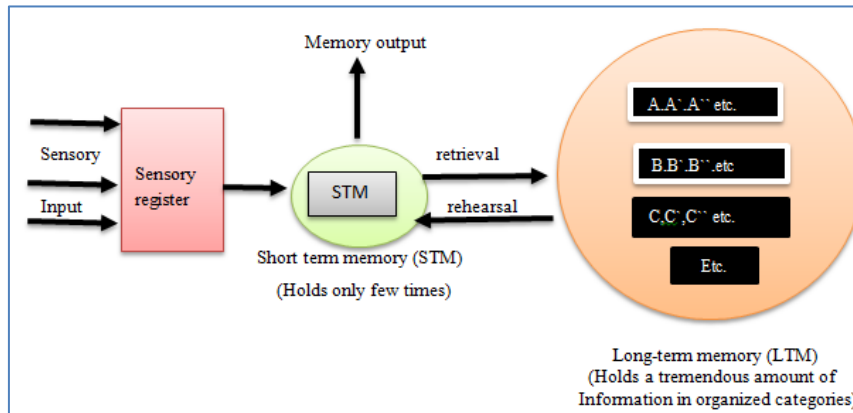


Fig-1: An information processing model of memory (based on Atkinson and Shiffrin, 1998) [1]

Learning is not limited to schools, books or boring activities. In fact- this is the best phase of your child’s education where both of them can have fun. The best way to stimulate your child are some simple and fun activities that can help accelerate the verbal and motor skills really fast [7].

Children’s understanding of scientific and mathematical concepts grows during EC as the majority of this special problem brain development takes place during these years, and most rapidly (Berk 2002). Children are curious and can be encouraged to develop scientific thinking and learn about emerging mathematical and scientific concepts. Children’s curiosity, motivation and sense of mastery are the key to success in the early years (Chang, Stipek & Garza 2006; Singer, Golinkoff & Hish-Pasek 2006). During the early phase, they actively explore their environments, indulge in process of inquiry, discover certain concepts, get stimulation to form ideas, develop thinking, classify information, reason out actions, solve problems and make decisions and construct their own knowledge. An early enthusiasm in mathematics and science during this impressionable age can build-up the foundations for later competencies so that they can use informal mathematical and scientific knowledge

developed before they entered school to organise their formal school environment (Essa 2011). In order to do that, teaching/learning of mathematics and science concepts should form an integral part of daily life activities in EC, and the preschool curriculum should include activities, while being careful about the similarities and distinctiveness between different geographic and cultural groups, such as counting, measuring, locating, designing, playing, exploring, problem-solving, observing and classifying for higher gains in various domains (Bishop 1991)[8].

Various study founded that most important functions of sleep was described that is role in promoting cognitive processes in children as well as adolescents [9].

II. MATERIAL AND METHODS

Research Approach: mixed method research, an evaluative and phenomenological approach was used for this study.

Mixed method research approach: Convergent parallel design

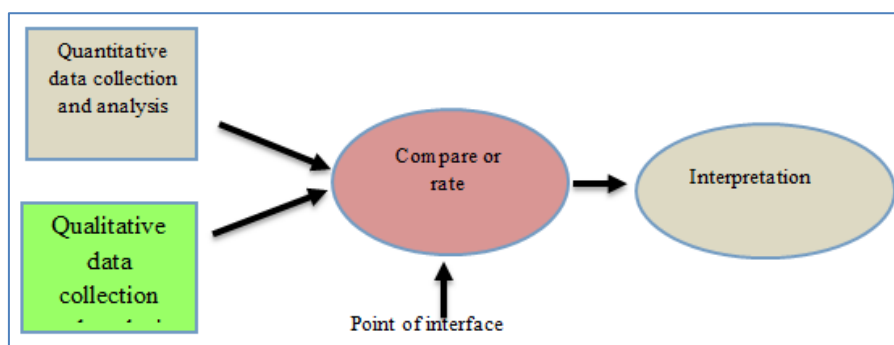


Fig-2: Convergent parallel design (diagram)

Study Design

The researcher's overall plan for obtaining answers to the research question or for testing research hypothesis is referred as research design.

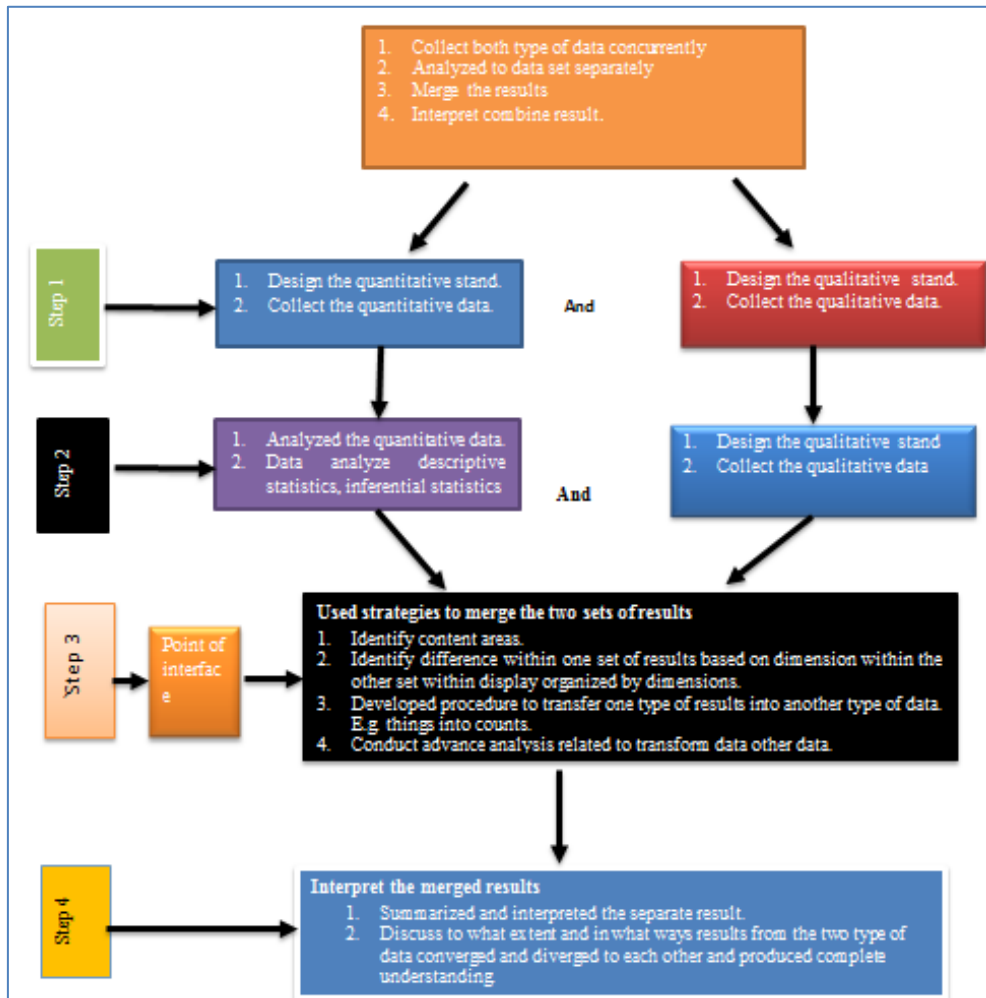


Fig-3: Research Design

Study Duration: 1week

Research setting: The setting selected for the study is an English medium school in selected city.

Samples: Sample will be dual in nature children in selected primary schools and their parents.

Sample size: 80children and their parents

Sampling technique: Quantitative strand and Qualitative strand

Inclusion criteria:

Quantitative strand:

Inclusion criteria for children

1. Children registered in the school.
2. Children who can understand Marathi and Hindi.

Exclusion criteria for children

1. Children have hearing difficulty.
2. Children with chronic illness.

Qualitative strand

Inclusion criteria for parents

1. Parents having children in the age group of 6-8 years
2. Parents who are willing their children will participate in the study.
3. Parents able to understand and speak Marathi.

Exclusion criteria for parents:

1. Parents who are physically disable and not able to respond to the tool.

Subject withdrawal criteria:

1. Children and parents those who wanted to withdraw from the study at any point of time during study period after given written informed consent without providing any cause.

Procedure methodology

The following method was used for the development of the tool:

1. Review of relevant literature (text books, journals, periodicals, online resources, research studies etc.).
2. Discussion with colleagues.
3. Personal consultation and discussion with guide and other nursing experts.
4. Investigator's observation and experience in clinical area.

Preparation of a blueprint

The investigator developed a blue print based on the obtained information from the review of literature and after discussion with the guide and other experts.

Sections A: - Socio-demographic variables for children and their parents

Sections B (Quantitative study): - Observational checklist to use by investigator.

Sections C (Qualitative study): - Questionnaire for parents related to children problem of memory.

III. RESULT

Section A: - socio-demographic data for children and their parents that is Frequency and percentage distribution of demographic variable of children and their parents.

Baseline characteristics are described under the subheadings of Age of the child, Gender of child, Number of brother and sister of children, birth order of child, standard of children, education level of parent, type of family of children, occupation of parents and Family income monthly in rupees.

Table-1: Frequency and percentage distribution of demographic variable of children and their parents

Sr. no	Demographic variables		Frequency	Percentage (%)
1	Age of the child	6 years	9	11.3%
		7 years	27	33.8%
		8 years	44	55.0%
2	Gender of the child	Male	42	52.5%
		Female	38	47.5%
3	Number of brother/sister of child	No brother/sister	42	52%
		One	15	18.8%
		Two	7	8.8%
		Three	16	20.0%
4	Birth order of child	First	29	36.3%
		Second	27	33.8%
		Third	20	25%
		Above third	5	8%
5	which class studying children	2 nd class	61	76. %3
		1 st class	19	23.8%
6	Education level of parent	Illiterate	5	6.3%
		Primary school	22	27.5%
		Secondary school	27	33.8%
		Graduate >	26	32.5%
7	Type of family of children	Nuclear	35	43.8%
		Joint	38	47.5%
		Extended	7	8.8%
8	Occupation of parents	Farmer	14	17.5%
		Private employee	24	33.8%
		Govt. employee	22	27.5%
		Any other	17	21.3%
9	Family income monthly in rupees	>10000	1	1.3%
		Between 5000-10000	44	55%
		<15000	35	43.8%

Section B: - Quantitative research design by using observational checklist to use by investigator

1. To assess the long term memory of school going children

Table-2: Frequency and percentage distribution of long term memory assessment of school going children

Sr. no	Level of long term memory	Pre-package frequency	Post-package Frequency	Frequency difference	Pre-package Percentage (%)	Post-package Percentage (%)	percentage difference (%)
1	Low/ Inadequate long term memory	26	50	24	32.4%	62.5%	26%
2	Moderate long term memory	1	30	29	1.3%	37.5%	36.5%
3	Adequate long term memory	53	00	53	66.3%	00	66.3%

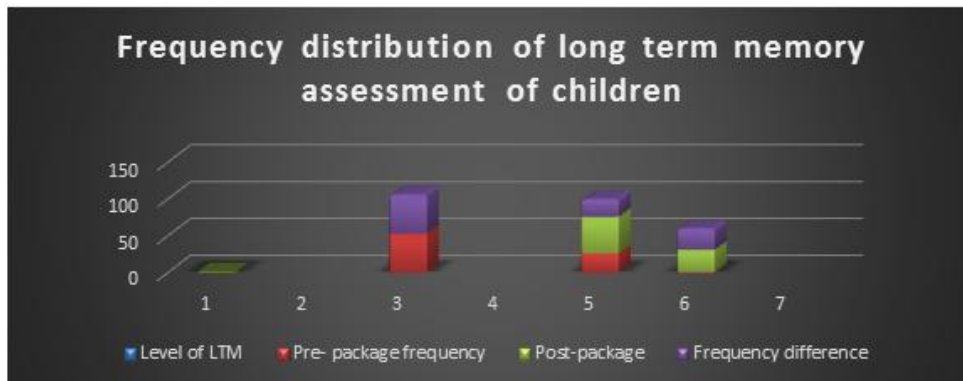


Fig-3: Histogram indicating frequency distribution of long term memory assessment children

Table no 2 and figure no 3 showed that, overall frequency and percentage distribution of level of long term long term memory assessment subjects by information source. In pre-test 53 children having inadequate knowledge, 26 children having moderate knowledge and 1child is having adequate knowledge about before implementation of memory package. In post-test overall frequency and percentage distribution

of level of long term memory subjects by information source. In the group, 55 (62.5%) children having moderate long term memory and 30(37.5%) children is having adequate long term memory about before implementation of memory package.

2. To assess the problems related to memory of children

Table-3: Pre-test and post-test area wise frequency and distribution of problems related to long term memory of children (N=80)

Sr. no	Parameters	Pre test				Post test			
		MAX. SCORE	MEAN	SD	MEAN %	MAX. SCORE	MEAN	SD	MEAN %
1	Mental sum	4	2.46	0.711	49.25%	5	5	3.26	65.25
2	Problem solving	5	2.08	1.367	65.25%	6	3.66	0.871	61.43
3	One min. attention span test	4	1.83	1.10	36.50%	5	2.98	0.900	59.50
4	visual test	3	1.28	0.871	42.50	3	2.08	0.689	69.17
5	Olfactory test	3	0.83	0.829	27.50	3	1.19	0.634	65
6	Sound test	3	2.20	0.582	73.33	3	2.20	0.582	73.33

Table no 3showed that, pre -test, post -test mean difference is highest in the area of sound test and lowest

in the area of olfactory test and highest SD in the area of problem solving puzzles and lowest in mental sums

3. To evaluate the effectiveness of memory package among children of selected school

Table-4: Distribution of parameters of memory package according to pre -test, post- test mean difference, SD, SD difference, and percentage and t value. (N=80)

Sr. no	Parameters	Pre Test mean	Post Test Mean	Mean difference	Pre Test SD	Post Test SD	S.D difference	Percentage (%)	t test valve
1	Mental sum	2.46	3.26	0.80	0.71	0.72	0.85	16	8.44
2	Problem solving puzzles	1.83	2.98	1.05	1.10	0.90	1.48	23	9.58
3	One min. attention span test	1.83	2.08	1.15	0.87	0.69	1.12	26.67	7.95
4	Visual test	1.28	2.08	0.80	0.87	0.69	1.12	26.67	6.40
5	olfactory test	0.83	1.95	1.13	0.84	0.63	1.04	37.50	9.71
6	Sound test	1.41	2.20	0.79	0.92	0.58	1.03	26.25	6.86

df =79, table value=1.67, p value=0.00

Table no 4 showed pre -test, post -test mean difference highest in the area of one min attention span test and lowest in the area of sound test and highest SD difference in the area of problem solving puzzles and lowest in mental sums. t- Test value is more than table value.

4. To find out the association between memory package and long term memory among children.

There is no significant association between the post-test checklist Scores and selected demographic variables of children's and their parents.

Section 3:- Qualitative research design by using standardised questionnaires.

Step 1: Collect the qualitative data.

The results of this qualitative study are based on interview of parents of children in selected school.

The 8 participants in this study were enrolled in this study. Each participant was interviewed at his/her home visit. Home visit effective and necessary way to communicate with participants.

Interview schedule were provided to the parents with set of 20 questions which answered by parents. Qualitative stand designed as an interview schedule consist of 20 questions related to the long term memory of their kids.

Step 2

1. Designing the qualitative strand and distinct themes and collecting the data

Three distinct themes emerged from the rich text narrative data. The major theme identified from the result of this study as according to below presented (table no: 11).

Table-5: Design the qualitative stand and distinct themes

Sr. no	Theme	Items no according to unstructured questioner
1	Forgetting/lost	1,4,5,6,8,10,19
2	Anxiety expressed as repetitive word, level of memory and child interest on the topic asked for.	2,3,7,12,15,16,17,20
3	Child academic achievement/ academic progress	9,11,13,14,18

Step 3: The point of interface

Two experts those who know Marathi and English, assessed the authentication of data and compare both types of data. Following checklist used topoint of interface of quantitative and qualitative data. It was a triple blind process were investigator and both evaluator were randomly selected and they don't know

each other. They separately assess the data and compare the data and provided their opinion through closed enveloped to a fourth evaluator. Fourth evaluator (code 04) assess both code 1 and code 2 evaluation and given the final opinion i.e. provided merged the quantitative and qualitative data.

Table-6: Checklist for Quantitative and Qualitative data measuring scale

Sr no	Quantitative and Qualitative data measuring scale	Results are similar	Result are separate	Results are not similar	Results are not separate
1	Forgetting/lost				
2	Anxiety, repetitive word Level of memory / interest of the child				
3	Achievement/ academic progress				

Step-4:- Interpret the merge results

Interpret the qualitative and quantitative data was summarised by fourth expert opinion. Both evaluator (code -01 evaluator and code -02 evaluator) quoted comments was given.

Fourth expert opinion it shows that, fourth assessor independently observed results and even assess the narrated content. And come to following conclusion.

1. Results are similar in the expression and also the statics conside with qualitative data.
2. Result also shows that Memory package contribute to improve academic performance and help to academic as well as other achievements by improving attention time span, listening, problem solving skills.

IV. DISCUSSION

The study intends to evaluate the effectiveness of memory package to improve long term memory and problems related to memory among children of age group 6-8 years in selected school. The findings of the study are discussed in reference to the objectives and hypothesis stated in Chapter.

A simple random sample of 80 children selected English medium school based on the specific criteria. The data on baseline sample characteristics were analyzed using descriptive statistics. Following study finding shows that the baseline characteristics reveal that majority of mentally challenged children in Group I (65%) and in-Group II (55%) were of the age group 4-7 years. Majority of them in Group I (85%) and Group II (65%) were male children. present study the baseline characteristics reveal that majority of the 44 children is 8 years (55%). 7 years old children is 27 (33.8%) and 9 children is 6 (11.3%) years old similar result showed in the present study. Following study finding shows that most of the children in group I (85%) and group II (65%) were males. In the present study group majority of the subjects were males children 52.5 % (42) and 47.5% (38) of the subjects were female children.

Robert Kail and Christine Vereb Marshall conducted the study on reading skill and memory scrambling. In this study they found the scanning memory of less skilled (15.5%) and skilled readers and found that skilled readers were answered quickly to be learnt material. But the present study entirely different,

tried to enhance the memory of adequate (37.5%) level children's.

Charles Bowen, Tony Gelabart, and Joseph Torgesen in 1979 investigated memory process involved in performance on the Visual-Sequential Memory Subtest of the Illinois test of psycholinguistic abilities. This study just investigated the memory process involved in visual sequential memory in psycholinguistic abilities. In present study employed all the memory process on remembering the contents of their subjects and found effective that is the mean difference was 1.15.

Following study Memory Training Programme was given to 8th, 9th and 10th standard students which is including 7 things. Conclusions cleared that the students who were taught by Memory Training Package memorized events more and show higher achievement than those who were taught with conventional method of teaching. This MTP was used to senior group. Therefore Memory Training Package (MTP) was not effective mean difference is similar of control (28.7%) and experimental (28.66) group. In present study Memory Package was given 1st, 2nd and 3rd standard student which was including 6 things. Memory package was used to junior group. Therefore Memory Package found effectiveness pre -test, post -test mean difference highest in the all area of memory package.

McCarr Payne of Gerogia State University in 1980 found the normal and poor readers auditory short term memory and span of digit. Present study considered average memory level children's and implemented the all the memory techniques to enhance their long term memory.

Following study helped the students who learning in secondary schools to apply the mnemonics in learning their subject contents. The present study help the children who learning in primary English medium school to apply the memory package techniques for improving long term memory .

V. CONCLUSION

The quantitative data was to understand the children's problems in detail and their original conversation and communication related to long term memory perceived by their parents 6 to 8 years old. Participants' experiences and feedback added insight to the research questions posed in this study.

The qualitative results shows that, parents said before giving the training programme child achievement is on average level but after giving the memory package children's achievement and interest was improved.

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